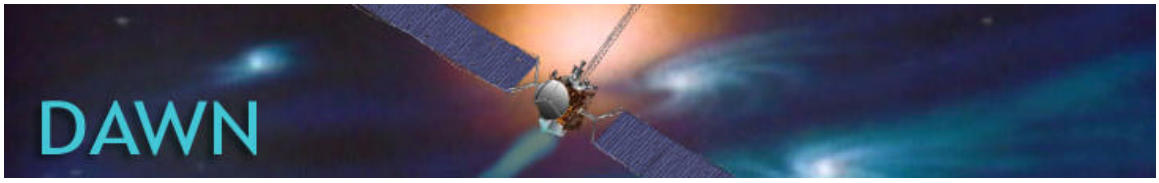


NASA's Dawn Mission:
Educational Materials Field Study

Introduction

In 2006, NASA's Dawn mission will begin its trek to investigate Ceres and Vesta, two of the largest protoplanets remaining intact since their formations. The mission will address the role of size and water in determining the evolution of the planets by measuring their mass, shape, volume, and spin rate with imagery, laser altimetry, and gravity. Through this investigation, scientists aim to characterize the conditions and processes of the solar system's earliest epoch.[1]

The Education and Public Outreach (E/PO) for the Dawn mission consists of a national team of E/PO specialists from the University of Maryland, New Roads Schools in California, and Mid-continent Research for Education and Learning (McREL). In support of the Dawn mission, this team develops and disseminates high quality resources and materials that reflect "best practices" in education. As such, Dawn E/PO curriculum materials are standards-driven, pedagogically appropriate, and designed to meet the needs of all students, including disadvantaged and underserved. Through their educational resources and materials, the Dawn E/PO team aims to improve students' understanding of the formation of the solar system, interest in solar-system science, and opportunities to conduct science within real-life contexts. The Dawn E/PO effort also intends to help science educators gain a better understanding of how to implement inquiry processes that lead to improved practices.

Study Purpose

The purpose of this field study is to ensure that the Dawn E/PO curriculum materials are of high quality and utility and reflect the needs of classroom science educators before they are disseminated to public and educator audiences. This study will allow the Dawn E/PO team to assess the appropriateness and effectiveness of the supplemental science materials in supporting science instruction and learning. This field study will also measure the impact of the Dawn E/PO curriculum materials on student understanding of and interest in solar-system science. The Dawn E/PO team is currently recruiting middle schools that are interested in participating as field-test sites for their curriculum modules and supplemental activities.

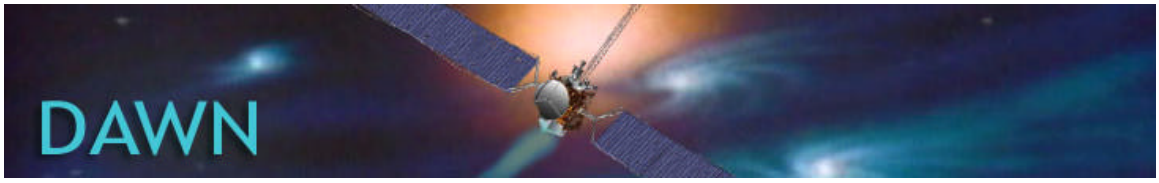
Dawn E/PO Field-test Sites

As part of the Dawn E/PO development process, all curriculum materials are pilot and field tested before broad dissemination. Materials are reviewed in pilot sites during spring semesters and field-tested during fall semesters. So the materials your school will field test have been thoroughly reviewed and pilot tested. Field-test participants have the opportunity to use and provide feedback on new and innovative supplemental science materials.

Design

The evaluation study will be conducted with 8th-grade teachers in an estimated four to eight middle schools during the Fall of 2004. Participating eighth-grade science teachers

[1] Dawn: A Journey to the Beginning of the Solar System (2002). The online site for the Dawn mission. Retrieved from the World Wide Web, June 5, 2003, http://www-ssc.igpp.ucla.edu/dawn/.



within a school will be randomly selected to field-test the Dawn E/PO materials. Therefore, some classes within a school will use the materials (treatment group) and others will not (control group). The following data collection mechanisms will be employed for the field study:

- Pre/post knowledge and skill assessment (developed by McREL)
- Pre/post student interest questionnaire (developed by McREL)
- Teacher informational online questionnaire (before implementation)
- Teacher module evaluation online survey (after implementation)
- Teacher and student demographics

Participation

Participating treatment teachers will be expected to implement the materials fully and participate and support all data collection activities during the three-to-four week study. This is critical, given that the E/PO team's ability to improve the quality, utility, and effectiveness of the Dawn E/PO materials depends on the thoughtful and comprehensive feedback from participating teachers. In recognition of their participation, teachers will receive hard copies of all E/PO field-test materials, student assessment results, and designation as a NASA E/PO Field Associate. Control teachers will be asked to administer the pre/post assessment to their students. They will have access to the curriculum materials after the field test. A site coordinator will be identified in each school or district to assist with scheduling, communication, and data collection.

No student, teacher, or school names will be used in reporting. If a reference is made to a school or teacher, it will be replaced with a pseudonym. All data will be reported in aggregated form, and no individual student data will be reported.

If you are interested in be considered for participation as a field-test site, please contact a member of the Dawn E/PO team or return the attached FAX form.

Contact Information

For information regarding the field study contact:

Dr. Stephanie Baird Wilkerson
Dawn E/PO Principal Evaluator, McREL
540.967.5540
sbaird-wilkerson@mcrel.org

For information regarding Dawn E/PO materials and resources contact:

Joe Wise
Dawn E/PO Manager, New Roads School
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jwise@newroads.org

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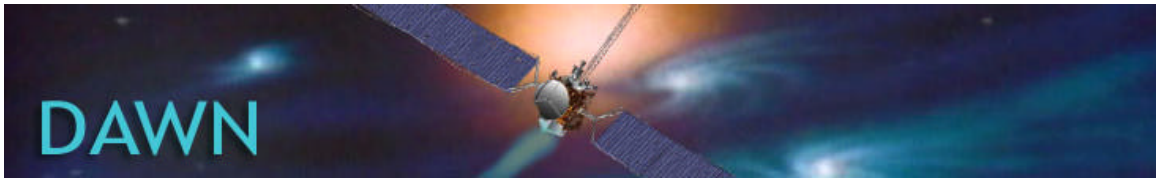

FAX

LETTER OF INTEREST
FOR THE Dawn E/PO FIELD TEST

TO: Stephanie Baird Wilkerson, Ph.D.
FAX #: 540-967-5541

DATE: _____

FROM: _____
SCHOOL/DISTRICT: _____
PHONE: _____
ADDRESS: _____
EMAIL: _____

Dr. Baird-Wilkerson:

We are very interested in participating in a field test of the Dawn E/PO supplemental science materials. We look forward to working closely with Mid-Continent Research for Education & Learning (McREL) and the Dawn E/PO team to determine whether our site will be one of the final sites chosen to participate in this study.

Sincerely,

Please answer the following questions:

1. Are you a representative of your school or district? ❑ school ❑ district
2. How many 8th grade teachers teach science at your site? ___ teachers
3. How many 8th grade teachers are interested in field testing the materials at your site? ___ teachers
4. What is the demographic location of your school?
   ❑ Urban ❑ Rural ❑ Suburban ❑ Other _____
5. If you are representing your school, who can we contact at the district to discuss this study?
   Contact name: _____
   title: _____
   phone: _____
   e-mail: _____